



AF 2006

PATENT
Attorney Docket No. 6289
Client Reference No. CM-092

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

Claudio L.K. Lins

Art Unit: 1744

Application No. 09/766,730

Examiner: Monzer R. Chorbaji

Filed: January 22, 2001

For: **ELECTROSTATIC DISINFECTANT
DELIVERY**

**TRANSMITTAL OF
APPELLANTS' APPEAL BRIEF**

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In accordance with 37 CFR 41.37, appellant hereby submits Appellant's Brief on Appeal.

The items checked below are appropriate:

1. Status of Appellant

This application is on behalf of ☒ other than a small entity or ☐ a small entity.

2. Fee for Filing Brief on Appeal

Pursuant to 37 CFR 41.20(2), the fee for filing the Brief on Appeal is for: ☒ other than a small entity or ☐ a small entity.

Brief Fee Due \$500.00

3. Oral Hearing

☐ Appellant requests an oral hearing in accordance with 37 CFR 41.47.

A separate paper requesting oral hearing is attached.

4. Extension of Time

☐ Appellant petitions for a one-month extension of time under 37 CFR 1.136, the fee for which is \$ 0.00.

- ☒ Appellant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that appellants have inadvertently overlooked the need for a petition and fee for extension of time.

Extension fee due with this request: \$

5. Total Fee Due

The total fee due is:

Brief on Appeal Fee	\$500.00
Request for Oral Hearing	\$ 0.00
Extension Fee (if any)	\$ 0.00

Total Fee Due: \$500.00

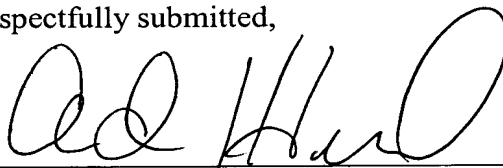
6. Fee Payment

- ☒ Charge Account No. 50-3505 the sum of \$500.00. A duplicate of this transmittal is attached.

7. Fee Deficiency.

- ☒ If any additional fee is required in connection with this communication, charge Account No. 50-3505. A duplicate copy of this transmittal is attached.

Respectfully submitted,



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Date: December 11, 2006

In re Appln. of Claudio L.K. Lins
Application No. 09/766,730

CERTIFICATE OF MAILING

I hereby certify that this APPEAL BRIEF TRANSMITTAL AND APPEAL BRIEF (along with any documents referred to as attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Appeal Brief – Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Date: 12-11-06

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PATENT
Attorney Docket No. 6289
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

Claudio L.K. Lins

Art Unit: 1744

Application No.: 09/766,730

Examiner: Monzer R. Chorbaji

Filed: January 22, 2001

For: ELECTROSTATIC DISINFECTANT
DELIVERY

APPELLANT'S APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In support of the appeal from the final rejection dated July 10, 2006,
Appellant now submits his Brief required by 37 C.F.R. §41.37.

Real Party In Interest

The patent application that is the subject of this appeal is assigned to JohnsonDiversy, Inc., Sturtevant, Wisconsin 53177.

Related Appeals and Interferences

There are no appeals, interferences or judicial proceedings that are related to this appeal or application.

Status of Claims

Claims 1-27 are currently pending in this application, stand rejected, and are being appealed.

Status of Amendments

No amendments have been filed subsequent to the final Office Action dated July 10, 2006.

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Summary of Claimed Subject Matter

As a preliminary matter, all references within this section below are to the specification and drawings of the present application. There is no intent to limit the claims in any manner by references, as this is merely being done for compliance with the appeal rules.

Claim 1

Independent claim 1 is directed toward a substantially non-aqueous electrostatically dispensable disinfectant composition. See pg. 3, lns. 25-27. The composition includes an alcohol solvent in combination with a glycol solute component. *Id.* The combination has an initial conductivity. See pg. 5, lns. 4-5. The composition further comprises a conductivity control component comprising at least one of a silicon oil, an essential oil, a fatty acid ester and combinations thereof. See pg. 5, lns. 1-4 and 23-24. The conductivity control component is provided in an amount sufficient to reduce the initial conductivity. See pg. 5, lns. 4-6. All composition components of the disinfectant composition for electrostatic dispensing are at least one of soluble and miscible. See pgs. 13-15, examples 2-12.

Claim 9

Independent claim 9 is directed toward a substantially non-aqueous disinfectant composition. See pg. 3, lns. 25-27. The composition includes a glycol component present at about 5 weight percent to about 20 weight percent. See pg. 5, lns. 14-15. The composition includes an alcohol component present at about 30 weight percent to about 70 weight percent. See pg. 5, lns. 15-16. The composition includes a conductivity control component present at about 15 weight percent to about 50 weight percent. See pg. 5, lns. 16-17. The control component is present in an amount sufficient to provide said composition a conductivity from about 0.01 microsiemens per centimeter to about 1.0 microsiemens per centimeter. See pg. 5, lns. 17-19. The balance provided by an aqueous component in an amount sufficient to form an azeotropic mixture with said alcohol component. See pg. 4, lns. 15-22. The electrostatically dispensable disinfectant composition is free of immiscible and insoluble topical composition particulates. See pgs. 13-15, examples 2-12.

Claim 13

Independent claim 13 is directed toward a system for electrostatic delivering an antimicrobial material. See pg. 6, lns. 1-2. The system includes a disinfectant composition

includes a glycol component in combination with an alcohol component. See pg. 6, lns. 2-27. The combination has an initial conductivity. See pg. 5, lns. 4-5. The disinfectant composition includes a conductivity control component comprising at least one of a silicon oil, an essential oil, a fatty acid ester and combinations thereof. See pg. 5, lns. 1-4 and 23-24. The conductivity control component is present in an amount sufficient to reduce the initial conductivity of the combination. See pg. 5, lns. 4-6. The system further includes an electrostatic dispensing apparatus containing the disinfectant composition in a liquid reservoir (14). See pg. 10, ln. 26 to pg. 11, ln. 10. The apparatus further includes an electrostatic charging element (15). *Id.* A voltage source (1 in FIG. 1A) electrically connects to the element. *Id.* See also pg. 6, ln. 23. A dispenser (6B in FIG. 18) provides the disinfectant composition in proximity to the element (15). See pg. 6, lns. 7-8. The dispenser provides the disinfectant composition sufficiently proximate the element (15) to electrostatically charge the composition. *Id.* The electrostatic dispensing apparatus is at least one of an electrostatic wick (16 in FIG. 2) and a vaporizing emitter. See pg. 7, ln. 26; pg. 8, lns. 1-4. The electrostatic dispensing apparatus dispenses the disinfectant composition in a vapor and/or aerosol suspension form when subject to an electrical power source. See pg. 10, lns. 13-15 and 23-25.

Claim 18

Independent claim 18 is directed to a method of using a glycol disinfectant composition to reduce airborne microbial levels. See pg. 2, lns. 18-21. The method includes the step of providing an electrostatically dispensable, substantially non-aqueous glycol disinfectant composition. The disinfectant composition comprises an alcohol solvent component in combination with a glycol solute component. See pg. 3, lns. 25-27. The combination has an initial conductivity. See pg. 5, lns. 4-5. The disinfectant composition further comprises a conductivity control component comprising at least one of a silicon oil, an essential oil, a fatty acid ester and combinations thereof. See pg. 5, lns. 1-4 and 23-24. The conductivity control component is provided in an amount sufficient to reduce said initial conductivity. See pg. 5, lns. 4-6. The method further includes the step of charging the glycol disinfectant composition with an apparatus comprising only one electrode conductively connected to a voltage source. See pg. 6, lns. 22-23. The method further includes the step of dispensing the charged glycol disinfectant composition in an amount and at a rate sufficient to effect a 3-log reduction in airborne microbial levels. See pg. 6, lns. 24-25.

Claim 22

Independent claim 22 is directed to a substantially non-aqueous disinfectant composition. See pg. 3, lns. 25-27. The composition includes triethylene glycol present at about 10 weight percent to about 15 weight percent of said composition. See pg. 5, lns. 7-12. The glycol has an initial viscosity and an initial conductivity. See originally filed claim 22. The composition includes ethanol present at about 45 weight percent to about 60 weight percent of said composition. See pg. 5, lns. 15-16. The ethanol present in an amount sufficient to dissolve said glycol. See pg. 6, lns. 15-17. The amount of ethanol present is sufficient to reduce said initial viscosity. See originally filed claim 22. The composition includes a fragrance component present at about 20 weight percent to about 40 weight percent of said composition. See originally filed claim 22. The fragrance is present in an amount sufficient to reduce said initial conductivity. See originally filed claim 22. The composition is electrostatically dispensable. See pg. 3, line 29. The composition has a viscosity and a conductivity sufficiently reduced to deliver said composition at a rate of at least about 0.1 grams per hour to about 0.5 grams per hour. See originally filed claim 22; See also pg. 6, line 28 to pg. 7, line 1. All composition components of the disinfectant composition for electrostatic dispensing are at least one of soluble and miscible. See pgs. 13-15, examples 2-12.

Grounds of Rejection to be Reviewed on Appeal

1. Whether claims 1-5, 9, 11-13, 15 and 17 are anticipated and unpatentable over U.S. Patent No. 6,531,142 to Rabe et al (hereinafter "Rabe").
2. Whether claims 6-8, 10 and 14 are obvious and unpatentable over the asserted combination of Rabe in view of U.S. Patent No. 5,591,395 to Schroeder et al (hereinafter "Schroeder").
3. Whether claims 16 and 18-21 are obvious and unpatentable over the asserted combination of Rabe in view of Schroeder and U.S. Patent No. 6,880,554 to Coffee (hereinafter "Coffee '554").
4. Whether claims 26-27 are obvious and unpatentable over the asserted combination of Rabe in view of U.S. Pat. No. 5,382,410 to Peltier.
5. Whether claim 25 is obvious and unpatentable over the asserted combination of Rabe in view of Schroeder, Coffee '554, and Peltier.
6. Whether claims 22-24 are obvious and unpatentable over U.S. Patent No. 6,105,877 to Coffee (hereinafter "Coffee '877") in view of Schroeder, Rabe and U.S. Pat. No. 4,071,616 to Bloch.

Argument

I. RABE FAILS TO TEACH EACH AND EVERY LIMITATION OF CLAIMS 1-5, 9, 11-13, 15 AND 17 AND THEREFORE DOES NOT ANTICIPATE THESE CLAIMS UNDER 35 U.S.C. §102(e).

To reject a claim under 35 U.S.C. §102, each and every limitation must be found in a single reference and arranged as required by the claims such that the reference discloses the identical invention. See MPEP §2131. *citing Verdegall Bros. v. Union Oil Company of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); *Richardson v. Suzuki Motor Company*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). As will be discussed in detail below, the Appellant respectfully submits that the Examiner has failed to establish a case of anticipation of the rejected claims. Therefore, the Appellant respectfully requests the Board to overturn the rejection of claims 1-5, 9, 11-13, 15 and 17, and indicate allowability thereof.

A. The Examiner has made erroneous factual findings as to the teachings of Rabe and then applied these erroneous findings to improperly establish anticipation of claims 1 - 5, 9 and 11-12

A significant issue presented in this case is relatively simple in concept, whether the requirements for particulates in the composition as disclosed by Rabe can be disregarded to meet limitations pertaining to the absence of such particulates. For example, Claims 1-5 expressly recite "wherein all composition components of the disinfectant composition for electrostatic dispensing are at least one of soluble and miscible." In a similar but slightly different vein, claims 9, and 11-12 recite a disinfectant composition "wherein the electrostatically dispensable disinfectant composition is free of immiscible and insoluble topical composition particulates." As discussed below, the fair reading of Rabe is that it requires particulate material, contrary to these claims. Indeed, Rabe pertains to cosmetic skin care compositions (not disinfectants as per the present invention), such that the nature of the subject matter alone of Rabe (cosmetics and skin care compositions) would readily suggest a requirement for particulates.

In the final Office Action dated July 10, 2006, the Examiner asserted that claims 1-5, 9 and 11-12 are anticipated by Rabe. However, the Examiner has made numerous erroneous

factual findings as to the teachings of Rabe, and particularly as to whether particulate material is only an optional component, and then applied those improper findings to make a determination that Rabe teaches each and every limitation of claims 1-5, 9 and 11-12. Once the erroneous finding that particulate matter is not a mere optional component, the anticipation rejections and other obviousness rejections based on this erroneous finding fall apart, because the claims expressly recite the exclusion of such particulates. Indeed, it would be undesirable to release particulates in an aerosol air disinfectant deliver system. Further, obviousness rejections against other dependent claims will fall apart for this reason as well. However, those dependent claims are separately argued on other additional bases.

Rabe teaches and pertains to topical compositions that are applied to the skin and more specifically to "color cosmetics and skincare compositions." (See Rabe, col. 1, lns. 14-18). The entire essence of Rabe is that the topical compositions include immiscible and insoluble particulates that are topically applied to the surface of a person's skin.¹

Rabe teaches that numerous embodiments of these skincare and color cosmetic topical compositions can be formulated. See Rabe, col. 2, lns. 55-56. More particularly, from the following discussion it will be clear that Rabe teaches four required or essential elements that are included in each embodiment of a composition and a fifth element that may be optionally added to embodiments of compositions that otherwise include the four essential elements.

Rabe clearly identifies the five elements by expressly naming them and providing an individual section for each element dedicated to that element discussing the various different ingredients that may be used to fulfill the individual element within the composition. These sections also discuss the purpose and function of the element within the composition. These five categories of elements are (a) Liquid Insulating Material²; (b) Conductive Material³; (c) Powder Component⁴; (d) Thickening Agents⁵; and (e) Optional Components⁶. Each of the five elements include a plurality of individual ingredients that maybe be selected to fulfill that element within a given embodiment of a composition.

The Examiner's first erroneous factual finding is the determination that Rabe teaches:

[a]ll various combinations of including or excluding various elements are possible. The word combination would convey to one of ordinary skill in the art that for a certain embodiment, the combination is, for example, a, b, c, d and optional components (columns 8-11). Another possible combination that falls within the

¹ See Rabe at col. 6, lns. 21-67; and particularly Rabe at col. 3, lns. 23-34 indicating that all of the topical compositions described in the reference include between .1% and 35% particulate matter which is insoluble and immiscible in the composition; See also discussion below.

teaching scope of Rabe is a, b and d. (See Advisory Action Continuation Sheet, 3rd paragraph).

However, it is clear from Rabe, that it is not contemplated that all "combinations of ... elements are possible." The Examiner has erroneously read the boiler plate statements in Rabe that "all combinations of such embodiments and features are possible, Rabe, col. 2, lns. 57-59" to mean all combination of elements of the embodiments are possible.

The Examiner has clearly misstated and misread col. 2, lns. 55-58 and the Appellant lists them below for reference:

In the description of the invention various embodiments and/or individual features are disclosed. As will be apparent for the skilled practitioner all combinations of such embodiments and features are possible and can result in preferred execution of the invention. (emphasis added).

While Rabe teaches that all combinations of embodiments may be possible, Rabe clearly does not teach that all combinations of elements are possible. The Examiner has clearly erred by finding "embodiment" to be synonymous with "element" and loosely interchanging the two terms as needed. These two terms clearly have separate meanings as used in Rabe. In Rabe, an individual "embodiment" is made up of a plurality of "elements" (components). Nowhere in the section relied on by the Examiner, or in any other section of Rabe, is it taught "any combination of the disclosed ingredients or required/essential elements may be used."

Second, the Examiner has clearly erred in reading Rabe to teach embodiments that do not include all of the essential or required elements. The Examiner clearly has indicated that all elements/components can be included or excluded to form any composition, rendering elements that Rabe considers "essential elements" optional. However, Rabe clearly teaches that all embodiments of the compositions include "essential elements"⁷ and may also include "various optional and preferred elements." See Rabe at col. 2, lns. 47-50.

The Appellant has reviewed Rabe at col. 2, lns. 9-24 and cannot find anywhere within that section that indicates that any of elements (a)-(d) that it discloses may be combined in all combinations or where a combination can exclude any of elements (a)-(d). The reason this is important is that particulates are one of the required elements, namely element c. While the

² See Rabe at col. 4, ln. 12.

³ See Rabe at col. 5, ln. 14.

⁴ See Rabe at col. 6, ln. 20.

⁵ See Rabe at col. 7, ln. 21.

⁶ See Rabe at col. 8, ln. 51.

⁷ See Rabe at col. 2, ln. 47; Note that Rabe uses the terms "element" and "component" synonymously to mean an individual category of ingredients, not as an individual embodiment of the invention, which are formed by a plurality of elements.

Examiner refers to col. 8-11 for support, this section merely disclose "Optional Components." The Appellant acknowledges that Rabe teaches that any composition may or may not include the optional components listed in col. 8-11. However, as discussed below, it is clear from Rabe that the other four components (a)-(d) are not optional and are found in each and every composition disclosed in Rabe.

Rabe repeatedly identifies that elements (a)-(d) are provided in each composition. Rabe expressly states in the Summary of the Invention section, the Detailed Description of the Invention section, the Claims, and the Abstract that the compositions comprise:

- (a) from about 2% to about 90% of a liquid insulating material;
- (b) from about 2% to about 90% of a conductive material;
- (c) **from about 0.1% to about 35% of a particulate material which is insoluble and immiscible in the composition;** and
- (d) from about 05% to about 30% of a thickener for stabilizing the composition.

See Rabe at col. 2, lns. 16-29; col. 3, lns. 25 – 37; Claim 1; Abstract (emphasis added)

Rabe's disclosure includes further indications that the first four elements (a) – (d) are included in all compositions while the fifth element (e) is the only optional element by the way that the disclosure begins discussing each element individually.

Each section for the first four elements begin in a substantially similar manner indicating that the element is included at least to some extent in all compositions. More specifically, the Liquid Insulating Material section begins by stating "[c]ompositions of the invention comprise one or more liquid insulating materials in a total amount of from about 2% to about 90%". Rabe at col. 4, lns. 13-15 (emphasis added). The Conductive Material section begins by stating "[c]ompositions of the invention comprise one or more conductive materials in a total amount of from about 2% to about 90%." Rabe at col. 5, lns. 14-16 (emphasis added). The Powder Component section begins by stating "[t]he compositions also comprise a total of from about 0.1% to about 35% of one or more powder materials." Rabe at col. 6, lns. 21-22 (emphasis added). The Thickening Agents section begins by stating "[c]ompositions here of also comprise a total of from about 0.5% to about 50% of one or more thickening agents." Rabe at col. 7, lns. 22-23 (emphasis added). Thus, each of these sections begin with a statement that indicates that all compositions include "one or more" of the elements listed in the elements category in a weight percent greater than 0.1% clearly indicates that these elements are required.

However, the Optional Components section begins by stating "[t]he compositions hereof optionally comprise additional components such as are conventionally used in topical

products." Rabe at col. 8, lns. 52-54 (emphasis added). Furthermore, this section is the only section that does not indicate that at least some weight percent of the element is included in the compositions. As such, it is clear that Rabe consciously altered the way that it introduced the individual category of Optional Components to indicate that that element is optional and not essential and required, in contrast to the other four essential elements. As such, the compositions Rabe discloses clearly require at least the essential elements (a)-(d) and can optionally include optional element (e). Therefore, the Examiner has erred in determining that Rabe teaches that any element is optional and can be excluded from a composition.

In light of the foregoing, it is clear the Examiner also makes the erroneous all encompassing statement that "Rabe considers particulate material as an optional component." See Advisory Action continuation sheet, 4th paragraph. While Rabe does in fact include within the "optional components" particulate material (Rabe at col. 9, lns. 8-9), the Examiner's apparent conclusion that by discussing particulate material in the optional component section, all particulate material then becomes optional. This is just not the case. As discussed previously, it is clear that element (c) from the numerous lists of elements within the components, which is clearly the third element listed in the specification is the Powder Component. It is clear that the Powder component correlates to the required "0.1% to about 35% of particulate material which is insoluble and immiscible in the composition" that is repeatedly identified in the Summary of the Invention, Detailed Description, Claims, and Abstract sections of Rabe. It is clear that the Powder component is this required element as it is no coincidence that the Powder Component section expressly identically repeats that quantity of material that is provided in the compositions as "from about 0.1% to about 35% of one or more powder materials." See Rabe at col. 6, lns. 21-22. That section identifies the "powder materials" as "particulate matter having a particle size of from 0.0001 to 150 microns, preferably 0.01 to 100 microns." See Rabe at col. 6, lns. 23-25. As such, Rabe clearly teaches that that all compositions include, *inter alia*, "from about 0.1% to about 35% of a particulate material which is insoluble and immiscible in the composition," and that the Powder Component is particulate material and that the Optional Components are not the only elements that provide particulate material to compositions.

The Examiner applied his erroneous determinations that compositions of Rabe do not require particulate material and that essential required elements can be excluded from its disclosed compositions. The Examiner erroneously asserts that:

Rabe teaches (col. 2, lns. 55-58) that all combinations of the various disclosed embodiments are possible. This teaching means the composition can have different combinations of its components and is not limited to what is explicitly illustrated.

Clearly in one combination, the composition of Rabe includes a liquid insulating material and a conductive material, which both are miscible and soluble in the composition (col. 3, lns. 34-36),⁸ and immiscible and insoluble topical particulates are excluded.⁹

The Examiner erroneously relies on a repeated passage in Rabe that follows each of the listings of essential elements in the Summary of the Invention section, Detailed Description of the Invention, Claims and Abstract for his assertion. This language is listed below:

[t]he liquid insulating materials and conductive materials present in the composition are sufficiently miscible or soluble in the composition such that they are in substantially one phase.

The Examiner has misread this language to indicate that Rabe teaches a composition merely made of a liquid insulating material (element (a)) and a conductive material (element (b)). However, this interpretation is clearly erroneous. This language clearly indicates that while the liquid insulating materials and conductive materials are themselves miscible and soluble in the composition and that they themselves are elements of the compositions, they, themselves, do not form an individual composition but are parts of a composition. This is emphasized by the fact that these two elements are "present in the composition" and are "sufficiently miscible or soluble in the composition." Nowhere does this statement imply that these two components "form the composition." Furthermore, the examiner ignores the fact that these statements directly follow a listing of all of the elements that are required in compositions of Rabe. In doing so, the Examiner has erroneously ignored that all components in Rabe require at least "0.1% to about 35% of a particulate material which is insoluble and immiscible in the composition."

A further example applying the Examiner's factual findings, clearly illustrates that the Examiner's factual findings are erroneous, and that he has erred in applying them to indicate that Rabe teaches a composition that does not include element (c) (particulate material that is insoluble and immiscible). According to the Examiner's reading of Rabe, a composition may merely include element (a) and element (d), i.e. that the composition could include 90% of a liquid insulating material and 10% of a thickener for stabilizing the composition. This so-called composition that the Examiner would read to be fully taught by Rabe, is clearly repugnant to the teachings of Rabe. This composition lacks elements (b) and (c), the

⁸ Final Office Action Section 6 bridging pgs. 3 and 4 while discussing claim 1

⁹ Final Office Action Section 6 bridging pgs. 4 and 5 while discussing claim 9

conductive material and the powder component. The Examiner indicates that this composition is taught by Rabe because any of elements a, b, c, d, and e may be eliminated at will. See Advisory Action Continuation Sheet, 3rd paragraph.

However, Rabe expressly states that "the relative total levels of the insulating and conductive materials may vary, provided that sufficient conductive material is present such that the composition realizes the electrical potential during spraying." Rabe at col. 6, lns. 6-9 (emphasis added). Clearly, Rabe does not contemplate removal of all conductive material because if all conductive material would be removed, as the Examiner clearly indicates, the composition would not be able to realize an electrical potential and would not be able to be electrostatically sprayable.

Furthermore, the composition would not include any powder component (i.e. component (c)) and would therefore not provide any of the features of the invention that Rabe identifies. Namely, the cosmetic or skin care composition would not provide skincare benefits because the powder component (component (c)) provides skincare features of the inventive compositions. Thus, from a common sense stand point, a cosmetic topical composition of Rabe would need particulates to be such a cosmetic. Indeed, Rabe expressly identifies that the powder component:

provide[s] one or more benefits to the composition or skin such as coloration, light diffraction, oil absorption, translucency, opacification, pearlescence, matte appearance, lubricious feel, skin coverage and the like. These materials are well known in the art and are commercially available. Selection of the particular type and level of a given powder material for a particular purpose in a given product is within the skill of the artisan. Rabe at col. 6, lns. 27-34.

Thus, the Examiner has made numerous factual errors in determining the scope and teachings of Rabe. More particularly, the Examiner has then erred by applying these erroneous factual findings regarding the skin care and cosmetic compositions taught by Rabe to determine that Rabe teaches a composition that includes only a liquid insulating material and a conductive material and excludes the powder component which is insoluble and immiscible in the composition. The Examiner then erroneously applied these erroneous factual findings regarding the skin care and cosmetic compositions of Rabe to anticipate the disinfectant compositions of claims 1-5 which expressly require that "all composition components of the disinfectant composition for electrostatic dispensing are at least one of soluble and miscible" and to claims 9 and 11-12 which are similar but in are slightly different in that they expressly require that "the electrostatically dispensable disinfectant composition

is free of immiscible and insoluble topical composition particulates. As Rabe clearly teaches that all of its cosmetic and skin care compositions require particulate material, i.e. immiscible and insoluble particulates, Rabe does not teach each and every limitation of the disinfectant compositions of claims 1-5, 9, and 11-12. Therefore, the Appellant respectfully solicits the Board to overturn this ground of rejection that is based on clearly erroneous factual findings and indicate the allowability of claims 1-5, 9, and 11-12.

B. Rabe fails to teach each and every limitation of Claims 13, 15 and 17

As discussed previously, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. MPEP §2131. This requirement means that the identical invention must be shown in as complete detail as is contained in the claim. *See Richardson v. Suzuki Motor Company*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The Examiner has rejected claim 13 under 35 U.S.C. §102(e) as being anticipated by Rabe. However, claim 13 is directed toward a system of electrostatic delivery of anti-microbial material that requires an electrostatic dispensing apparatus that is an electrostatic wick and/or a vaporizing emitter that dispenses the disinfectant composition in a vapor and/or aerosol suspension form when subject to an electrical power source. This teaching is completely contrary to any teachings contained in Rabe, as Rabe does not teach either an electrostatic wick and/or vaporizing emitter which allows a composition to vaporize or turn into an aerosol suspension within the surrounding air. Rabe teaches an apparatus which includes a spray nozzle for electrostatically spraying droplets such that they are dispensed onto a surface, namely skin. See Rabe at col. 12, lns. 11 and 59.

The Office Action indicates that:

Rabe discloses an electrostatic dispensing apparatus having the following: a liquid reservoir (col. 12, lns. 57-58), an electrostatic charging element (col. 14, lns. 8-10), a voltage source (col. 12, lns. 59-60) and a dispenser (col. 13, lns. 20-21).¹⁰

These broad statements clearly do not illustrate an electrostatic wick or vaporizing emitter in sufficient detail to anticipate claim 13. Particularly, nowhere in the cited sections, or in Rabe generally, does Rabe disclose an electrostatic wick or a vaporizing emitter. Rabe's broad teachings of a dispenser do not adequately teach an electrostatic wick or vaporizing

¹⁰ Office Action pg. 5, paragraph bridging from pg. 4.

emitter. Particularly, the teachings of Rabe are specific to a nozzle for spraying compositions droplets to be deposited onto the skin.

Furthermore, claim 13 requires, and as more fully discussed at pg. 9 of the present application, an electrostatic wick and/or vaporizing emitter functions to dispense the disinfecting composition in a vapor and/or aerosol suspension form. However, Rabe teaches that the nozzle creates electrically-charged droplets suitable for topical treatment (See Rabe at col. 12, lns. 12-14) as opposed generating a vapor and/or aerosol.

Considering that Rabe teaches an electrostatic spraying device (which is neither disclosed as a wick or vaporizing emitter) and teaches forming charged droplets as opposed to vapor and/or aerosol suspension form, Rabe fails to teach each and every limitation of claim 13. Therefore, the Appellant respectfully solicits the Board to overturn this ground of rejection and indicate the allowability of claims 13, 15, and 17.

II. THE EXAMINER HAS FAILED TO ESTABLISH A *PRIMA FACIE* CASE OF OBVIOUSNESS OF CLAIMS 6-8, 10 AND 14 16, 18-27 UNDER 35 U.S.C. §103(a)

A second issue arises as it relates to the above identified claims. Is there any teaching, suggestion or motivation to combine Rabe with the other asserted reference? This is particularly apparent as the claims of the pending application cover disinfectant compositions, devices and/or systems for dispensing the disinfectant compositions into the air and methods of using the disinfectant compositions while Rabe teaches cosmetic and skin care compositions that are to be applied on to the skin of a person. As will be more fully developed below, the law of obviousness indicates that there is no motivation to combine the cosmetic teachings of Rabe with other references, either as a primary reference or as a secondary reference, to develop the claimed inventions of the present application.

A. No suggestion or motivation exists to modify Rabe by Schroeder to make obvious claims 6-8 and 10 as alleged in the Office Action.

The Examiner has raised obviousness rejections over Rabe in view of Schroeder et al. against claims 6-8 and 10. These claims, in part, further specify the disinfectant compositions by identifying the glycol component as triethylene glycol. However, these rejections cannot stand in view of the law of obviousness. It is well established that if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ

349 (CCPA 1959). In addition, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). See also MPEP §2143.01.

In rejecting claims 6 and 10, the Office Action asserts that:

Rabe fails to teach the use of triethylene glycol... it would have been obvious to modify the composition of Rabe by substituting propylene glycol for triethylene glycol since triethylene glycol is one of the preferred glycol materials named by Schroeder (col. 1, lns. 66-67) for its ability to readily generate particles, which form an aerosol suspension in the air at temperatures,¹¹ which can safely be used in a small consumer appliance (col. 1, lns. 62-66)." (Final Office Action, Section 9, second paragraph)

However, such a modification would be directly contrary to the principals of operation of Rabe and the intended purpose of Rabe. Rabe teaches compositions that are used as topical treatments for skincare and or cosmetics for skin. The compositions are electrostatically sprayed onto the skin by forming electrostatically charged droplets. The electrostatic charge of the droplets operates to cause the droplets to be attracted to an earthed surface, the person's skin so that the droplets are deposited onto the skin to deliver the cosmetic and/or skincare composition.

Such a modification to cause or promote the composition to become and remain airborne air rather than to be attracted to and deposited on to a surface would change the principle of operation of Rabe as well as render Rabe unsatisfactory for its intended purpose of depositing the composition on to the skin. As such, there is no motivation to make the proposed modification to Rabe.

In view of these inadequacies in the motivation and suggestion to modify Rabe, the Appellants respectfully submit that the combination of Rabe and Schroeder cannot be supported. As such, the Appellant respectfully solicits the Board to overturn the Examiner's ground of rejection and indicate the allowability of claims 6-8 and 10.

B. No suggestion or motivation to modifying Rabe by Schroeder exists to make obvious claim 14 as alleged in the Office Action.

Claim 14 recites in relevant part that the claimed system for electrostatic delivery of an antimicrobial material requires the disinfectant composition to be "delivered in an amount

¹¹ Please note that the actual quote in Schroeder does not include the comma after "temperatures" and reads more clearly, as it states: "these materials readily generate particles which form an aerosol suspension in the air at temperatures which can safely be used in small consumer appliances." Schroeder at col. 1, lns. 62-66.

sufficient to provide a 3-log reduction in airborne microbial levels." In rejecting claims 14, the Examiner asserts that:

Schroeder teaches that the composition causes a reduction of 3-log in the airborne microbial levels (Examples 1-2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rabe composition by choosing triethylene glycol since it causes a substantial reduction in the amount of airborne bacteria present as taught by Schroeder (col. 4, lns. 10-17)." See Final Office Action Section 9 paragraph bridging pgs. 7 and 8.

Modifying Rabe as proposed by the Examiner would run contrary to the teachings of Rabe. Specifically, there is no reason to modify the cosmetic applying system of Rabe to one which would effect a 3-log reduction in airborne microbial levels as recited in claim 14. In order to do so, such a modification would have to eliminate the charged spray droplets which "seek the closest earthed object" as set forth in Rabe and instead make a vapor and aerosol suspension, as proposed by Schroeder. This modification would prevent Rabe from applying or substantially reduce its ability to apply topical treatments. More particularly, this modification would promote reducing the ability of the composition of Rabe from adhering to a surface so that it more consistently remained as a vapor and/or aerosol suspension. The explicit purpose of Rabe is to have the composition applied to a surface, not vaporized into the surrounding environment. It is not seen how a topical treatment when applied on the skin can reduce airborne microbial materials. Again, Rabe is very specific to a spraying technique¹², and that the composition is applied to the skin. However, such a modification clearly would eliminate Rabe as a topical treatment or for cosmetic or skincare purposes which is the primary purpose and function taught by Rabe.

Again, the proposed modification would render the prior art unsatisfactory for its intended purpose and would change the principle of operation of Rabe, thereby failing to provide a motivation or suggestion for the modification as indicated in MPEP §2143. As such, the Examiner has failed to prove a *prima facie* case of obviousness. The Appellant respectfully requests the Board to overturn the Examiner's obviousness rejection of claim 14.

C. Claims 16 and 18-21 are not obvious over Rabe in view of Schroeder and Coffee

a. Claims 18, 19, 21 is not obvious over Rabe in view of Schroeder and Coffee '554

¹² Specifically, Rabe teaches a system whereby compositions are "directly applied to the skin by electrostatic spray techniques"; and that the "electrically-charged droplets seek the closest earthed object to discharge their electric charge, which can be arranged to be the desired spray target." Rabe, col. 12, lns. 8-15.

The method of using a glycol disinfectant composition to reduce airborne microbial levels according to claim 18 requires, at least in part, "dispensing said charged glycol disinfectant composition in an amount at a rate sufficient to effect a 3-log reduction in airborne microbial levels." This rejection, like the previous obviousness rejection in Section II(B), relies in part on Rabe in view of Schroeder. The Examiner again acknowledges that Rabe "fails to teach providing the 3-log reduction in air borne microbial levels" (Final Office Action, pg. 8, ¶3) and again resorts to the disclosure of Schroeder to rectify this deficiency. The Examiner uses the same motivation to combine Rabe with Schroeder as indicated previously to rectify the deficiencies in Rabe. Compare Final Office Action Section 9, paragraph bridging pgs. 7 and 8 with identical passage at Section 10, paragraph bridging pgs. 8 and 9. The Examiner's addition of Coffee '554 to the combination adds nothing of consequence in rectifying the lack of motivation to combine Rabe with Schroeder.

As such, the proposed modification of combining Schroeder with Rabe would render Rabe unsatisfactory for its intended purpose and would change the principle of operation of Rabe, which fails to provide a motivation or suggestion for the modification, and, therefore, the Examiner has failed to prove a *prima facie* case of obviousness, as indicated in MPEP §2143. The Appellant respectfully requests the Board to overturn the Examiner's obviousness rejection of claims 18, 19 and 21.

b. Claims 16 and 20 are not obvious over Rabe in view of Schroeder and Coffee

Claims 16 and 20 similarly add the limitations that the glycol component is triethylene glycol and is delivered, or similarly dispensed, at a rate of at least 0.1 grams per hour. The rejection to these claims, like the previous obviousness rejection in Section II(A), rely in part on Rabe in view of Schroeder. The Examiner again acknowledges that "Rabe fails to teach providing the use of triethylene glycol." Final Office Action, pg. 10, ¶2. The Examiner uses the same motivation to combine Rabe with Schroeder for these claims as indicated previously to rectify the deficiencies in Rabe.¹³ The Examiner's addition of Coffee '554 to the combination of Rabe and Schroeder adds nothing of consequence in rectifying the lack of motivation to combine Rabe with Schroeder. Again, the Examiner expressly states that "Coffee fails to teach the use of triethylene glycol."

Thus, the asserted combination fails for at least the same reasons as set forth in Section II(A). Again, the proposed modification would render Rabe unsatisfactory for its

¹³ Compare Final Office Action Section 9, second paragraph with similar passage at Section 10, second paragraph.

intended purpose and would change the principle of operation of Rabe, thereby failing to provide a motivation or suggestion for the modification. As such, the Examiner has failed to prove a *prima facie* case of obviousness, as indicated in MPEP §2143. Therefore, the Appellant respectfully requests the Board to withdraw these obviousness rejections to claims 16 and 20.

D. Claim 26 is not obvious over Rabe in view of Peltier as there is no teaching, suggestion or motivation for modifying Rabe by Peltier as alleged in the Office Action

While an obviousness rejection is raised over Rabe in view of Peltier against claim 26, this rejection cannot stand in view of the law of obviousness. The antimicrobial material delivery system of claim 26 depends from claim 13 and further requires in relevant part that the "electrostatic dispensing apparatus is supported within an air duct of a central air handling system of a building for release of vapor and/or aerosol." In rejecting claim 26, the Office Action asserts that:

Rabe fails to teach that the dispensing system ... fails to teach electrostatically dispensing the composition within an air duct of a central air handling system. Peltier teaches an electrostatically dispensing system ... and placing the device within an air duct of a central air handling system (col. 2, lns. 47-53). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to ... place Rabe device within an air duct of a central air handling system as taught by Peltier in order to modify the character and quality of the air within a room or a building (Peltier, col. 2, lns. 64-68 and col. 3, lns. 1-2) by adding scents and by disinfecting the air handling ducts. (Final Office Action, pg. 11, ¶ bridging pgs. 10 and 11) (emphasis added).

However, such a proposed modification would be directly contrary to the teachings of Rabe. Rabe teaches a system whereby compositions are "directly applied to the skin by electrostatic spray techniques"; and that "electrically-charged droplets seek the closest earthed object to discharge their electric charge, which can be arranged to be the desired spray target." Col. 12, lns. 8-15.

More particularly, Rabe teaches a spray nozzle for electrostatically dispensing particulate such as lotions, pigments, or other skincare products on the skin of a person. The explicit purpose of the device of Rabe is to be able to electrostatically spray the composition onto a particular surface, the skin of a person. By modifying the device of Rabe, such that it no-longer sprays the composition onto the skin of a person, but it vaporizes and/or forms an aerosol composition within air within an air duct, the modification significantly renders Rabe unsatisfactory for its intended purpose of applying the skincare or cosmetic composition to

the skin of a person. As such, there is no motivation to make the proposed modification of Rabe. See MPEP §2143

Therefore, Peltier can not be used for the proposed modification of Rabe because no motivation to modify Rabe with Peltier exists and doing so would improperly "render the prior art, [Rabe], unsatisfactory for its intended purpose" in violation of MPEP §2143.01. The Appellants respectfully solicit the Board to overturn the Examiner's rejections and indicate the allowability of claims 26.

E. Claim 27 is not obvious over Rabe in view of Peltier as there is no teaching, suggestion or motivation for modifying Rabe by Peltier as alleged in the Office Action

While an obviousness rejection is raised over Rabe in view of Peltier against claim 27, this rejection cannot stand in view of the law of obviousness. The antimicrobial material delivery system of claim 27 depends from claim 13 and further requires in relevant part that the "electrostatic dispensing apparatus does not include a spray nozzle for dispensing the disinfectant composition." In rejecting claim 27, the Office Action asserts that:

Rabe teaches that any electrostatic system can be utilized for dispensing the composition (col. 12, lines 15-23). Rabe fails to teach that the dispensing system does not include a spray nozzle.... Peltier teaches an electrostatically dispensing system without a spray nozzle (figure 1B: 6a or 6b).... Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute Rabe electrostatic dispensing system with Peltier since controlling the quantity of liquid fed to the wick directly results in precisely controlling the quantity of aerosol generated (Peltier, col. 2, 42-46). (Final Office Action, pg. 11, ¶ bridging pgs. 10 and 11) (emphasis added).

Rabe does not teach that any dispensing system can be used. Rabe teaches that:

The compositions hereof are suitable directly applied to the skin by electrostatic spray techniques. In general, this method involves raising the composition to be sprayed to a high electric potential in a spray nozzle to cause the composition to atomize as a spray of electrically charged droplets....For use in the present invention, the hardware and electrical componentry and circuitry may be of any suitable construction and design. Rabe at col. 12, lns. 8-18 (emphasis added).

As such, Rabe teaches that any "suitable construction and design" may be used. The Examiner has ignored that Rabe requires the design of the device to be suitable. For the device to be "suitable," the device must be able to directly apply the compositions by "electrostatic spray techniques." Rabe clearly identifies that the "suitable construction and design" requires the use of a "spray nozzle" to "spray" the composition.

Furthermore, Rabe teaches that the dispensing device can be used to dispense the composition "directly onto the skin at an intended site." Rabe at col. 12, ln. 67 (emphasis added). As such, Rabe further teaches that the use of the nozzle allows for directing the spray to an intended or targeted spot. By failing to use a spray nozzle, the spray would be merely emitted into the air, such as by vaporization or forming an aerosol suspension, and would not be directed toward an intended site. Clearly, this would not be a suitable construction.

Clearly, the proposed modification of Rabe to exclude a nozzle, such that the composition would not be "sprayed" but would be otherwise emitted such as vaporized or turned into an aerosol suspension would render Rabe, the primary reference unsatisfactory for its intended purpose and change its principle of operation. As such, no motivation to modify Rabe with Peltier exists and the Examiner has failed to prove a *prima facie* case of obviousness. See MPEP §2143.01. As such, the Appellants respectfully solicit the Board to overturn the Examiner's rejections and indicate the allowability of claims 27.

F. Claim 25 is not obvious over Rabe in view of Schroeder, Coffee, and Peltier as there is no teaching, suggestion or motivation for modifying Rabe by Peltier as alleged in the Office Action

While an obviousness rejection is raised over Rabe in view of Schroeder, Coffee, and Peltier against claim 25, this rejection cannot stand in view of the law of obviousness. The method of using a disinfectant composition of claim 25 depends from claim 18 and requires, at least in part, the further step of "forming said charged glycol disinfectant composition into the aerosol and/or vapor within an air duct of a central air handling system of a building." This rejection, like the obviousness rejection in Section II(C)(a) relies in part on the combination of Rabe in view of Schroeder and Coffee '554 as it is applied to claim 18. Therefore, the Appellant incorporates its arguments from Section II(C)(a) that the Examiner has failed to prove a motivation to combine Rabe with Schroeder. Further, Peltier does not supply, and the Examiner has not indicated that Peltier supplies, the deficient motivation or suggestion to combine Rabe with Schroeder. As such, this asserted combination fails for the same reasons as set forth in Sections II(B) and II(C)(a).

Furthermore, this rejection also relies in part on the combination of Rabe with Peltier, similar to the obviousness rejection in Section II(D) above. The Examiner has not identified where Coffee '554 and/or Schroeder supply, the lacking motivation or suggestion to combine Rabe with Peltier, therefore, this asserted combination also fails for the same reasons as set forth in Section II(D).

Again, the proposed modifications would render Rabe unsatisfactory for its intended purpose and would change the principle of operation of Rabe, thereby failing to provide a motivation or suggestion for the modification. As such, the Examiner has failed to prove a *prima facie* case of obviousness, as indicated in MPEP 2143. Therefore, the Appellant respectfully requests the Board to withdraw these obviousness rejections.

G. Claims 22-24 are not obvious over Coffee '877 in view of Schroeder, Rabe, and Bloch as alleged in the Office Action because there is no teaching, suggestion or motivation for the proposed modification

The substantially non-aqueous disinfectant compositions of claims 22-24 recite, in relevant part, that the composition includes "ethanol present at about 45 weight percent to about 60 weight percent of said composition." In rejecting claims 22-24, the Office Action asserts that "Rabe teaches adding an amount from 2 weight percent to 90 weight percent of ethanol (col. 5, lns. 14-16 and line 49)" indicating that the primary reference Coffee '877 fails to teach the limitation of "ethanol present at about 45 weight percent to about 60 weight percent." In combining the references, the Examiner asserts that:

it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Coffee composition ... to include ethanol component in an amount between 2 to 90 weight percent since ethanol is a solvent used for concentration makeup and to increase the amount of perfume present in or to release the perfume with a sufficient level so as to be considered satisfactory air freshener. (Final Office Action, paragraph bridging pgs. 12 and 13).

However, one having ordinary skill in the art would not look to the Rabe reference to modify Coffee '877, as the combination of the teachings of Rabe with Coffee '877 would significantly render Coffee '877 unsatisfactory for its intended purpose and would change the principle of operation of Coffee '877.

Coffee '877 teaches a method and device for dispensing and mixing comminuting liquids. More particularly, Coffee '877 teaches dispensing a first set of liquid droplets having a first polarity and a second set of liquid droplets. Coffee '877 specifically teaches that:

the key factors are that at least two of the comminuting means provide comminution of opposing polarity and that the comminution produced are arranged to substantially admix. See Coffee '877 at col. 2, lns. 28-33 (emphasis added).

Further Coffee '877 further clarifies that these two sets of droplets are dispensed into the air such that the oppositely charged droplets attract to each other causing vigorous mixing

and neutralization of the droplets. See Coffee '877 at col. 9, lns. 28-44 and 64-67; See also FIGS. 9 and 10. This mixing and neutralization of the two streams of liquid form droplets "for inhalation." See Coffee '877 at col. 4, lns 36-38 and 47-48.

However, as previously noted, Rabe teaches applying a composition to a surface by spraying a composition by forming "electrically-charged droplets which seek the closest earthed object to discharge their electric charge." Rabe at col. 12, lns. 13-15. As such, one of ordinary skill in the art would not look to the teachings of Rabe to modify Coffee '877. Rabe dispenses only a single composition and this composition is configured to remain charged while it is being sprayed so that it is attracted to the surface on which it is being dispensed. The composition is discharged when it contacts the surface. Indeed, Rabe is very clear about its application to the skin, and that the electrostatic discharge apparatus is an electrostatic sprayer which discharges electrically-charged droplets through a nozzle for topical skin treatment. (See col. 12, generally).

As such, modifying Coffee '877 with Rabe would significantly render Coffee '877 unsatisfactory for its intended purpose (generating a comminution that can be inhaled) and would change the principle of operation of Coffee '877 (generation of at least two comminutions that are of opposite polarity to cause mixing of the comminutions).

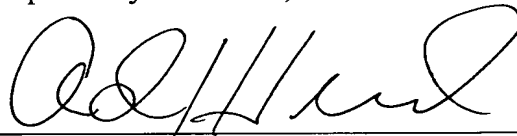
As such, the Examiner has failed to prove a motivation or suggestion to modify Coffee '877 by Rabe and, therefore, failed to prove a *prima facie* case of obviousness, as indicated in MPEP 2143. Therefore, the Appellant respectfully requests the Board to withdraw these obviousness rejections.

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Conclusion

For the foregoing reasons, the Appellant respectfully requests that each of the anticipation and obviousness rejections advanced in the Final Office Action dated July 10, 2006 be reversed and withdrawn indicating allowance of the pending claims and that the Application move forward to issuance.

Respectfully submitted,



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Claims Appendix

1. (Previously Presented) A substantially non-aqueous electrostatically dispensable disinfectant composition comprising an alcohol solvent component in combination with a glycol solute component, said combination having an initial conductivity, and further comprising a conductivity control component comprising at least one of a silicon oil, an essential oil, a fatty acid ester and combinations thereof in an amount sufficient to reduce said initial conductivity, and wherein all composition components of the disinfectant composition for electrostatic dispensing are at least one of soluble and miscible.
2. (Original) The composition of claim 1 wherein said alcohol component is selected from the group consisting of ethanol, isopropanol, benzyl alcohol and combinations thereof.
3. (Previously Presented) The composition of claim 1 wherein said conductivity control component is present in an amount effective to provide said composition a conductivity of about 0.01 microsiemens per centimeter to about 1.0 microsiemens per centimeter.
4. (Previously Presented) The composition of claim 3 wherein said conductivity control component is present at about 10 weight percent to about 90 weight percent of said composition.
5. (Original) The composition of claim 1 wherein said glycol component is selected from the group consisting of propylene glycol, dipropylene glycol, triethylene glycol and combinations thereof, said glycol component present at about 5 weight percent to about 80 weight percent of said composition.
6. (Original) The composition of claim 5 wherein said glycol component is triethylene glycol.
7. (Original) The composition of claim 6 wherein said alcohol component is selected from the group consisting of ethanol, isopropanol, benzyl alcohol and combinations thereof, said alcohol component present at about 10 weight percent to about 80 weight percent of said composition.

8. (Original) The composition of claim 7 wherein said alcohol component is ethanol, present in an amount sufficient to provide said composition a viscosity of about 0.1 centipoise to about 50 centipoise.

9. (Previously Presented) A substantially non-aqueous disinfectant composition, said composition comprising:

a glycol component present at about 5 weight percent to about 20 weight percent;

an alcohol component present at about 30 weight percent to about 70 weight percent;

a conductivity control component present at about 15 weight percent to about 50 weight percent, said control component present in an amount sufficient to provide said composition a conductivity from about 0.01 microsiemens per centimeter to about 1.0 microsiemens per centimeter;

a balance of an aqueous component in an amount sufficient to form an azeotropic mixture with said alcohol component, wherein the electrostatically dispensable disinfectant composition is free of immiscible and insoluble topical composition particulates.

10. (Original) The composition of claim 9 wherein said glycol component is triethylene glycol and said alcohol component is ethanol, said composition having a viscosity of about 0.1 centipoise to about 50 centipoise.

11. (Original) The composition of claim 9 wherein said conductivity control component is selected from the group consisting of silicon oils, essential oils, fatty acid esters, aliphatic materials and combinations thereof.

12. (Original) The composition of claim 11 wherein said conductivity control component is an essential oil present in an amount sufficient to provide said composition a conductivity of about 0.1 microsiemens per centimeter to about 0.2 microsiemens per centimeter.

13. (Previously Presented) A system for electrostatic delivery of an antimicrobial material, said system comprising:

a disinfectant composition comprising a glycol component in combination with an alcohol component, said combination having an initial conductivity and a conductivity control component comprising at least one of a silicon oil, an essential oil, a fatty acid ester and combinations thereof, said conductivity control component present in an amount sufficient to reduce said initial conductivity of said combination; and

an electrostatic dispensing apparatus containing said disinfectant composition in a liquid reservoir, said apparatus further including an electrostatic charging element, a voltage source electrically connected to said element, and a dispenser providing said disinfectant composition in proximity to said element, said proximity sufficient to electrostatically charge said composition, wherein the electrostatic dispensing apparatus is at least one of an electrostatic wick and a vaporizing emitter, the electrostatic dispensing apparatus when subject to an electrical power source dispensing the disinfectant composition in a vapor and/or aerosol suspension form.

14. (Original) The system of claim 13 wherein said disinfectant composition is delivered in an amount sufficient to provide a 3-log reduction in airborne microbial levels.

15. (Original) The system of claim 13 wherein said glycol component is present at solute concentrations in said alcohol.

16. (Original) The system of claim 15 wherein said glycol is triethylene glycol and said composition is delivered at a rate of at least 0.1 grams per hour.

17. (Original) The system of claim 13 wherein said conductivity of said disinfectant compositions about 0.01 microsiemens per centimeter to about 1.0 microsiemens per centimeter.

18. (Previously Presented) A method of using a glycol disinfectant composition to reduce airborne microbial levels, said method comprising:

providing an electrostatically dispensable, substantially non-aqueous glycol disinfectant composition comprising an alcohol solvent component in combination with a glycol solute component, said combination having an initial conductivity, and further

comprising a conductivity control component comprising at least one of a silicon oil, an essential oil, a fatty acid ester and combinations thereof in an amount sufficient to reduce said initial conductivity;

charging said glycol disinfectant composition with an apparatus comprising only one electrode conductively connected to a voltage source; and

dispensing said charged glycol disinfectant composition in an amount and at a rate sufficient to effect a 3-log reduction in airborne microbial levels.

19. (Original) The method of claim 18 wherein said glycol composition comprises a glycol dissolved in an alcohol, said glycol selected from the group consisting of propylene glycol, dipropylene glycol, triethylene glycol and combinations thereof.

20. (Original) The method of claim 19 wherein said glycol is triethylene glycol, and said dispensation rate is greater than about 0.1 grams per hour.

21. (Original) The method of claim 18 wherein said glycol composition includes a conductivity control component present in an amount sufficient to provide said composition a conductivity of about 0.01 microsiemens per centimeter to about 1.0 microsiemens per centimeter.

22. (Previously Presented) A substantially non-aqueous disinfectant composition, said composition comprising:

triethylene glycol present at about 10 weight percent to about 15 weight percent of said composition, said glycol having an initial viscosity and an initial conductivity;

ethanol present at about 45 weight percent to about 60 weight percent of said composition, said ethanol present in an amount sufficient to dissolve said glycol, said amount further sufficient to reduce said initial viscosity; and

a fragrance component present at about 20 weight percent to about 40 weight percent of said composition, said fragrance present in an amount sufficient to reduce said initial conductivity, said composition electrostatically dispensable, having a viscosity and a

conductivity sufficiently reduced to deliver said composition at a rate of at least about 0.1 grams per hour to about 0.5 grams per hour, and wherein all composition components of the disinfectant composition for electrostatic dispensing are at least one of soluble and miscible.

23. (Original) The composition of claim 22 wherein said ethanol solvent and said fragrance component are present in amounts sufficient to deliver said composition at a rate of about 0.3 grams per hour.

24. (Original) The composition of claim 23 wherein said triethylene glycol is present at about 13 weight percent of said composition, said ethanol is present at about 56 weight percent of said composition, and said fragrance component is present at about 30 weight percent of said composition.

25. (Previously Presented) The method of claim 18, further comprising forming said charged glycol disinfectant composition into the aerosol and/or vapor within an air duct of a central air handling system of a building.

26. (Previously Presented) The system of claim 13, wherein the electrostatic dispensing apparatus is supported within an air duct of a central air handling system of a building for release of vapor and/or aerosol.

27. (Previously Presented) The system of claim 13, wherein the electrostatic dispensing apparatus does not include a spray nozzle for dispensing the disinfectant composition.

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Evidence Appendix

None.

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Related Proceedings Appendix

None.